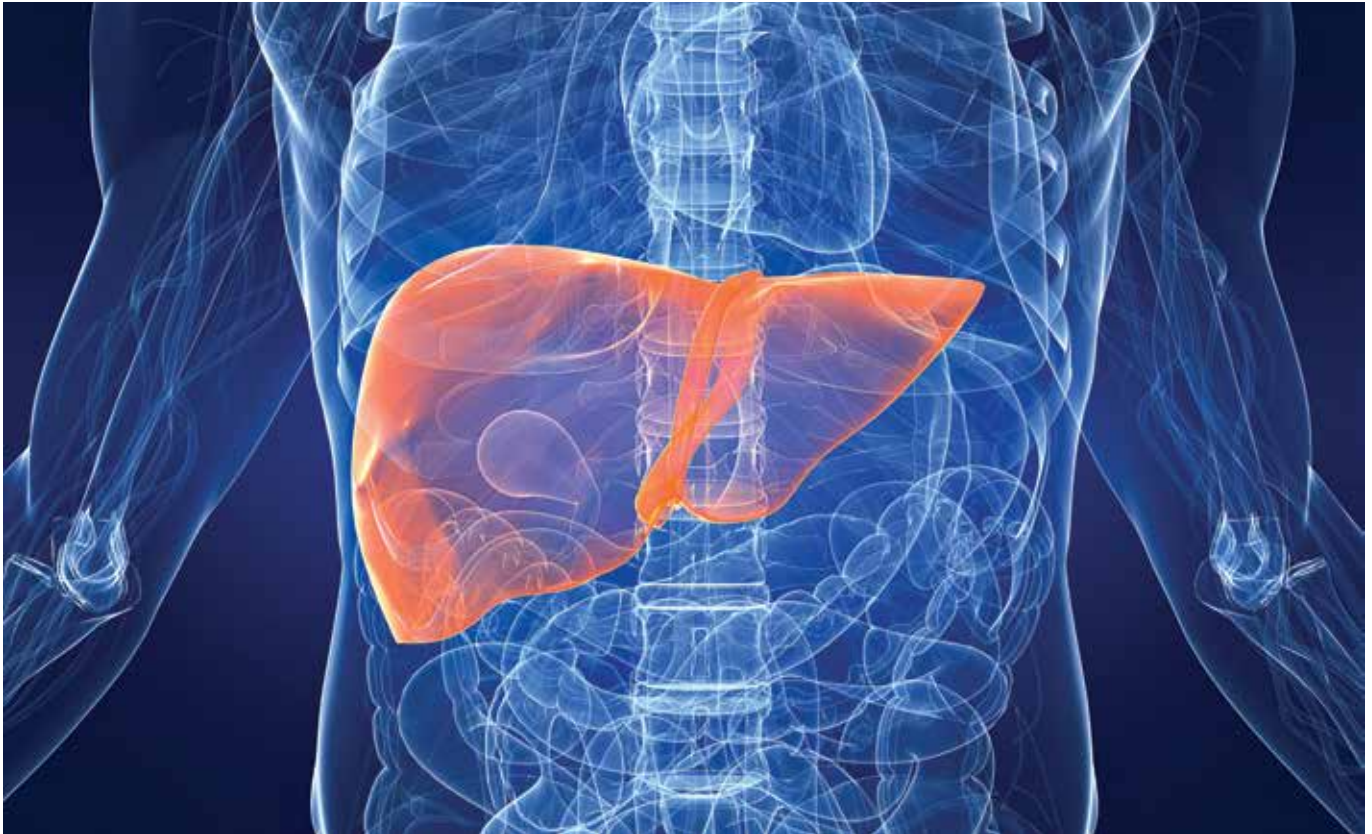


# Liver Transplantation - A Thoroughly Vetted Process



**E**stablished in 1994, the Asian American Liver Centre (AALC) is a leading centre that treats liver, pancreas and bile duct diseases in both adult and paediatric patients. Based at Gleneagles Hospital which provides outpatient services, AALC also co-manages a dedicated in-patient Parkway Asian Transplant Unit (PATU).

Led by Dato' Dr. Tan Kai Chah, a renowned liver surgeon specialising in liver transplantation, the team comprises of Dr. Lee Kang Hoe, respiratory physician and intensivist, Dr. Cheah Yee Lee, hepatobiliary and pancreatic surgeon and a multidisciplinary team of doctors, nurses and allied healthcare professionals. The centre provides patients comprehensive and seamless liver care including liver cirrhosis treatment, liver dialysis, Hepatitis C treatment and Hepatitis A and B vaccines.

In 2012, AALC entered into a strategic collaboration with the University of Pittsburgh Medical Centre (UPMC). The UPMC Liver Transplantation Program of the Thomas E. Starzl Transplantation Institute (STI) is a pioneer and one of the largest transplant programmes in the US.

## LIVING DONOR LIVER TRANSPLANTATION

Liver failure can occur suddenly as a result of infection, complications from certain medications, or long-term progressive liver diseases. The first step to treating liver disease

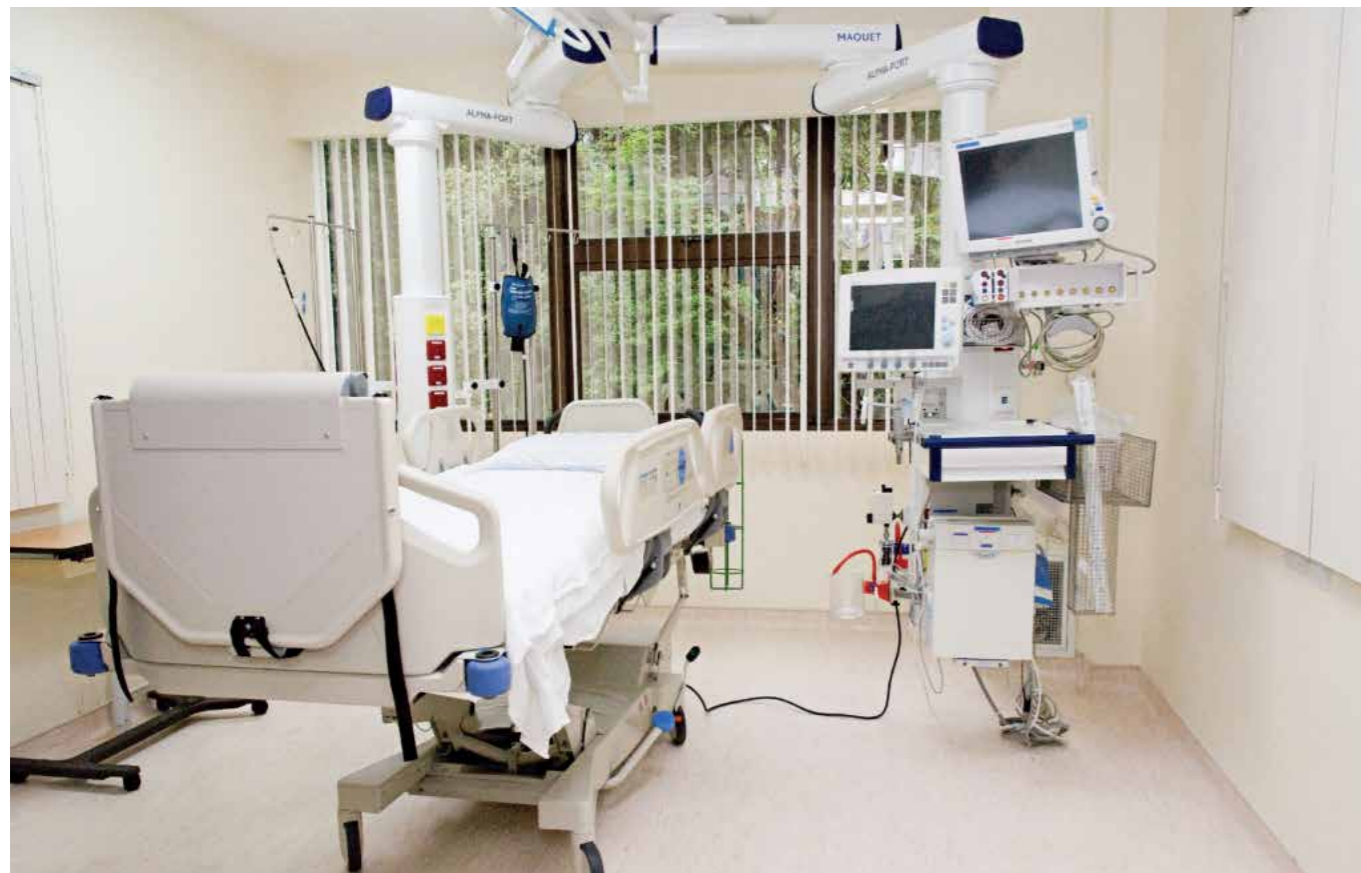
and/or damage is through medication. The liver has the potential to regenerate itself, but extensive damage to it caused by certain conditions make the damage irreversible. If treatment or therapy proves unsuccessful and the liver cannot function any longer, a liver transplant may be the only option for a patient.

As Dr. Cheah explains, conditions like fatty liver can cause cirrhosis and even liver cancer, which damages the organ beyond repair. "Fatty liver disease is associated with obesity, excessive alcohol intake, and metabolic conditions such as high cholesterol and diabetes mellitus. Fatty liver disease may lead to inflammation of the liver, which may eventually cause cirrhosis and liver cancer," she says.

AALC is an important referral centre for treating acute liver failure. In 2002, AALC became the first private liver transplant centre in Asia to feature a highly successful Living Donor Liver Transplantation (LDLT) programme.

LDLT is a procedure that involves a living donor who is willing to give a portion of his or her liver to a family member or close friend in need of a liver transplant. Waiting for a cadaveric donor liver can take a long time, especially for patients suffering with rapidly progressive diseases. Without LDLT, such patients can develop fatal complications.

In Asia, the prevalence of liver diseases like liver cancer is high, and there is an increasing demand for liver transplantation



A PATIENT WARD AT THE PARKWAY ASIAN TRANSPLANT UNIT (PATU) AT GLENEAGLES HOSPITAL, SINGAPORE

for patients with end-stage liver disease, not to mention a worldwide shortage of cadaveric livers with a long waiting list in every country. Hence, LDLT has become an effective option, particularly for those with acute liver failure and liver cancers like hepatocellular carcinoma (HCC).

“Treatment of liver cirrhosis and liver cancer will expand to modern multimodality techniques including surgical and non-surgical treatment, either singly or in combination,” Dr. Cheah explains. “Increasing acceptance and improving outcomes of liver transplantation as an acceptable standard treatment of end-stage liver disease will help improve the survival of patients with liver cirrhosis.”

### THE BENEFITS OF LDLT

One of the biggest advantages of LDLT over a cadaveric liver transplantation (CLT) is that the doctors can schedule the patient’s procedure. Thus, patients with compromised medical conditions can be optimised prior to transplant surgery in order to achieve better outcomes.

Additionally, doctors can ensure that the quality of the liver graft is preserved since it is retrieved from a healthy donor, and the cold ischemic time (the time the donated liver has no blood supply) in LDLT is usually much shorter.

At AALC, a highly experienced team of medical specialists performs LDLT for both adult and paediatric patients. Stringent measures are taken to thoroughly vet a donor’s suitability for each patient as the safety of both the donor and the recipient are extremely important.

The AALC team uses state-of-the-art technology from MeVis Distant Services (MDS), a company based in Germany. This technology allows the doctors to reconstruct the liver anatomy

of the donor accurately from CT scans. In this technique, the data from the CT scan of the donor is uploaded to MDS, where a team of technicians and a radiologist will translate the data to depict the vascular anatomy and parenchymal volume to determine suitability of the proposed liver graft for the recipient. It is a precise tool enabling the surgeon to perform the operation on the liver donor with utmost safety and confidence. As Dato’ Dr. Tan points out, AALC is the only medical centre in Southeast Asia using such technology regularly.

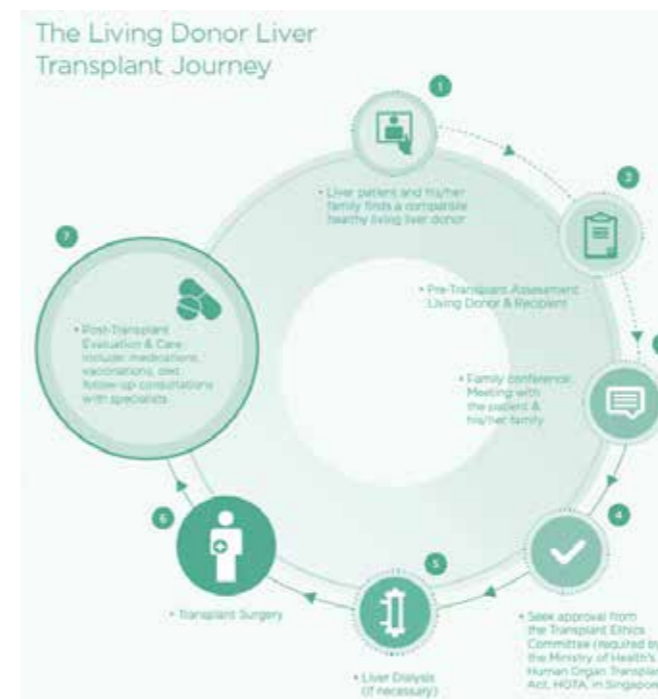
“We at AALC are proud to be the first in Southeast Asia to help develop and implement this technology, and it has enabled our team of medical experts to save even more lives,” Dato’ Dr. Tan says.

He adds that AALC is also a regional leader in the usage of various liver dialysis machines, which help treat patients with liver failure and act as a “bridge” to transplantation surgery.

One of the main drawbacks of LDLT is the potential for complications or even death of the donor. There is also the difficulty of finding a donor whose blood group is compatible with the recipient and is fit (physically and mentally) to undergo surgery. In Singapore, donors tend to be next of kin of the recipient or close associates. Potential donors are required to consult with an AALC specialist to be made fully aware of the risks of the surgery.

### AALC’S EXPERIENCED TEAM “A TREMENDOUS ASSET” FOR PATIENTS

Having performed their first living donor liver transplantation in 2002, AALC has successfully conducted more than 200 LDLTs – a milestone for Asia’s first private medical centre. It is now one of the largest and most experienced centres performing



SOURCE: AALC

such a procedure. Dr. Lee says the key to success has been a well-trained and experienced team in both ICU and general ward settings.

“As with everything in life, being prepared is half the battle won,” he says. “Even though liver transplant patients are not common, they are routine patients in our liver unit. We have performed more than 200 such cases over the years and have treated many more with complications from their liver transplant. Every member of the team has become an expert in their own right and has valuable contributions to the success of every patient. Having experienced the ups and downs over the years, the team can advise patients and their families as they go through this journey of a liver transplant.”

The liver unit has also become one of the top centres in the world for managing liver failure patients before liver transplant. It acts as a bridge before patients have to undergo surgery by utilising state-of-the-art liver dialysis support for critically ill patients. It is one of the most experienced centres in the world to date. Again, this is a testament to the overall team expertise, in managing such complex cases successfully.

### THE PARKWAY ASIAN TRANSPLANT UNIT – A DEDICATED INPATIENT WARD & ICU FOR LIVER PATIENTS

AALC co-manages a dedicated liver ward and ICU, known as the Parkway Asian Transplant Unit (PATU) at Gleneagles Hospital Singapore. At PATU, patients receive personalised medical care by AALC’s team. More than 90 percent of patients treated at AALC are from abroad.

PATU comprises 12 patient rooms fully equipped with modern amenities such as a private bathroom, mini-bar, fridge and TV, as well as in-house services like laundry and daily food menus. More importantly, PATU has seven ICUs with sophisticated medical equipment, for patients who require critical care and regular monitoring.



“Due to various cultural, religious, and social reasons, cadaveric organ donation is almost non-existent throughout Asia. LDLT enables suitable living donors to give a portion of their livers to patients in need. The LDLT programme (at AALC) empowers patients and medical professionals with greater understanding and control over every stage of treatment.”

— Dato’ Dr. Tan Kai Chah  
Surgeon,  
Asian American Medical Group (AAMG)

PATU’s excellent clinical outcomes have been internationally recognised, making the unit one of Singapore’s leading medical assets.

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“We are immensely privileged to have Gleneagles Hospital as our medical partner for more than 20 years,” he adds. “This collaboration is a testament to our institutions’ strengths in clinical excellence, technology and healthcare innovation.”

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